

I CLAIM:

1. A thermoforming tool (10), comprising

a forming tool (12), in which there is at least one mold opening (54),
means (28) with which a plastically deformable sheet material can be brought into contact with the inner wall of the mold opening (54),

a first parting tool (22), which is connected to a first support element (16) and having at least one first parting edge (36) extending around the rim of the mold opening (54),

a second parting tool (44), which is connected to a second support element (38) and having at least a second parting edge (56) which cooperates with the first parting edge (36) on the first parting tool (22),

at least one parting tool (22, 44) being made from a different material than its associated support element (16, 38), and

means nonrigidly supporting or fastened the first parting tool (22) relative to the first support element (16), and/or nonrigidly supporting or fastening the second parting tool (44) relative to the second support element (38).

2. The thermoforming tool (10) according to claim 1, wherein the nonrigid support or fastening means comprises a plurality of bending elements (68) connecting the first and/or second parting tool (22; 44) to the first and second support element (16; 38), respectively, the bending elements being designed such that they are deformed upon a defined maximum temperature-dictated relative motion between the first parting tool (22) and the first support element (16), and the second parting tool (44) and the second support element (38), respectively.

3. The thermoforming tool (10) according to claim 2, wherein at least one of the bending elements (68) includes a screw (70) and a threaded portion (80), which threaded portion has a bending portion (82), into which the screw (70) is screwed.
4. The thermoforming tool (10) according to claim 1, wherein the nonrigid support or fastening comprises a fixation device (58), by which the first parting tool (22) is fixed to the first support element (16) and/or the second parting tool (44) is fixed to the second support element (38), in each case at least translationally and approximately rigidly at some point.
5. The thermoforming tool (10) according to claim 2, wherein the nonrigid support or fastening comprises a fixation device (58), by which the first parting tool (22) is fixed to the first support element (16) and/or the second parting tool (44) is fixed to the second support element (38), in each case at least translationally and approximately rigidly at some point.
6. The thermoforming tool (10) according to claim 3, wherein the nonrigid support or fastening comprises a fixation device (58), by which the first parting tool (22) is fixed to the first support element (16) and/or the second parting tool (44) is fixed to the second support element (38), in each case at least translationally and approximately rigidly at some point.
7. The thermoforming tool (10) according to claim 4, wherein the fixation device comprises a fixation bolt (58).
8. The thermoforming tool (10) according to claim 5, wherein the fixation device comprises a fixation bolt (58).

9. The thermoforming tool (10) according to claim 6, wherein the fixation device comprises a fixation bolt (58).

10. The thermoforming tool (10) according to claim 4, wherein the fixation device comprises a spot weld (58).

11. The thermoforming tool (10) according to claim 1, wherein the nonrigid support or fastening comprises at least one guide device (86), by which the first parting tool (22) and/or the second parting tool (44) is guided movably relative to the first support element (16) and the second support element (38), respectively, translationally along a respective guide axis (60, 62).

12. The thermoforming tool (10) according to claim 11, wherein the guide device (86) includes a groove (88), which is engaged by a corresponding guide element (90).

13. The thermoforming tool (10) according to claim 11, comprising two guide devices (86) whose guide axes (60, 62) are at a right angle to one another.

14. The thermoforming tool (10) according to claim 12, comprising two guide devices (86) whose guide axes (60, 62) are at a right angle to one another.

15. The thermoforming tool (10) according to claim 4, wherein the nonrigid support or fastening comprises at least one guide device (86), by which the first parting tool (22) and/or the second parting tool (44) is guided movably relative to the first support element (16) and the second support element (38), respectively, translationally along a respective guide axis (60, 62), and wherein the guide axis or axes (60, 62) of the guide device or guide devices (86), as applicable, pass through the fixation device (58).

16. The thermoforming tool (10) according to claim 5, wherein the nonrigid support or fastening comprises at least one guide device (86), by which the first parting tool (22) and/or the second parting tool (44) is guided movably relative to the first support element (16) and the second support element (38), respectively, translationally along a respective guide axis (60, 62), and wherein the guide axis or axes (60, 62) of the guide device or guide devices (86), as applicable, pass through the fixation device (58).

17. The thermoforming tool (10) according to claim 6, wherein the nonrigid support or fastening comprises at least one guide device (86), by which the first parting tool (22) and/or the second parting tool (44) is guided movably relative to the first support element (16) and the second support element (38), respectively, translationally along a respective guide axis (60, 62), and wherein the guide axis or axes (60, 62) of the guide device or guide devices (86), as applicable, pass through the fixation device (58).

18. The thermoforming tool (10) according to claim 1, further comprising at least one low-friction sliding layer (94, 96) located between one parting tool (22) and the associated support element (20).

19. The thermoforming tool (10) according to claim 18, further comprising at least one substrate material (92) between one parting tool (22) and the associated support element (20), the substrate material having a low-friction sliding layer (94, 96) on both sides.

20. The thermoforming tool (10) according to claim 1, wherein at least one parting tool is urged against the associated support element by negative pressure or a magnetic force.